

WHAT IS CLAIMED IS:

- 1 1. An organic light emitting diode (OLED), comprising:
2 a substrate having a first electrode layer formed thereon;
3 an insulator layer formed on the substrate and forming a channel in a predetermined
4 pattern;
5 an organic polymer layer formed based on the channel and having at least an emission
6 layer;
7 a barrier formed at either side of the insulator layer of at least one end of the channel for
8 preventing ink for the organic polymer layer from running out from both ends of the channel; and
9 a second electrode layer formed on the polymer organic layer.
- 1 2. The OLED according to claim 1, wherein the barrier extends lengthwise in a direction
2 perpendicular to the channel.
- 1 3. The OLED according to claim 1, wherein the barrier extends lengthwise in a direction
2 inclined with respect to the channel.
- 1 4. The OLED according to claim 1, wherein the barrier is spaced by a predetermined
2 distance from a lateral surface of a neighboring insulator layer.

1 5. The OLED according to claim 1, wherein the barrier extends to a lateral surface of a
2 neighboring insulator layer.

1 6. The OLED according to claim 1, wherein the barrier comprises:
2 at least one first barrier for preventing the polymer ink from running out from both ends
3 of the channel; and
4 at least one second barrier for preventing the polymer ink from running in from neighboring
5 channels.

1 7. The OLED according to claim 6, wherein the first and second barriers incline lengthwise
2 with respect to the channel, the first and second barriers extending in opposite directions.

1 8. The OLED according to claim 7, wherein the first barrier extends lengthwise toward a
2 center of the channel, and the second barrier extends outward from the channel.

1 9. The OLED according to claim 1, wherein a height of the barrier is no less than 50 nm
2 and no greater than the height of the insulator layer.

1 10. The OLED according to claim 1, further comprising at least one blocking member for
2 interrupting outflow of the polymer organic layer is provided substantially at the center of both
3 ends of each channel.

1 11. The OLED according to claim 10, wherein a shape of the blocking member is one of
2 a cuboid, a cylinder, a pyramid, a wedge and a V-shape.

1 12. The OLED according to claim 11, wherein the blocking member includes at least two
2 elements in a wedge shape, centers of the wedge being opposite to each other.

1 13. The OLED according to claim 10, wherein a width of the blocking member is no
2 greater than a width of the channel.

1 14. The OLED according to claim 10, wherein a height of the barrier is no less than 50 nm
2 and no greater than a height of the insulator layer.

1 15. The OLED according to claim 1, wherein the polymer organic layer is formed by
2 coating a liquid polymer organic material along the channel by inkjet printing.